Indiana State Department of Health

Indianapolis

Proposed 410 IAC 6-8.2 for Onsite Sewage Systems
Response to Public Hearing Comments

This document contains responses of the Indiana State Department of Health to comments received during the public hearing process on 410 IAC 6-8.2 for Onsite Sewage Systems.

Introduction

Public hearings were held in Indianapolis on July 1, LaPorte on July 30, and Seymour on August 6, 2003. The public comment period was held open until August 13, 2003. The department received oral and written comments from a total of 142 people.

The department is providing a number of documents, as listed below, that provide supporting information used in the development of this response document. Readers should correlate the responses contained in this response document with original comments provided in testimony at the three public hearings, written comments submitted during the public hearing comment period, the hearing officer's report, and the documents showing all changes in *410 IAC 6-8.2* (Rule) and the Technical Specification (TechSpec). These documents are available electronically for public review; they may be obtained by e-mail from Alan Dunn or Chris Bourke at adunn@isdh.state.in.us or cbourke@isdh.state.in.us, respectively, and are listed below.

List of Documents for Review of Indiana State Department of Health Response to Public Hearing Comments

PH Transcript, Indianapolis, 07-01-03 (Notepad)
PH Transcript, LaPorte, 07-30-03 (RealLegal e-transcript)
PH Transcript, Seymour, 08-06-03 (Notepad)
PH Written Comments
PH Hearing Officer Report, 11-03-03
Changes in Rule, IN register to proposed-final adopted
Changes in TechSpec, pre adopted to proposed-final adopted
PH Response, 410 IAC 6-8.2 & TechSpec [*current document*]

In this document, the department provides rationales for changes to the Rule and TechSpec proposed for final adoption. The rationales are in response to comments received during the public hearing period that have a major impact on the Rule (as published in the Indiana Register on June 1, 2003) and the TechSpec (as preliminarily adopted by the Executive Board on January 8, 2003), as well as rationales to major comments that were rejected for consideration. Rationales are referenced to section number, and by line number in the documents 'Changes in Rule, IN register-final adopted' and 'Changes in TechSpec, pre adopted-final adopted'; the numerous changes (in response to comments) that were minor in nature are shown and acknowledged in these two documents.

February 17, 2004

Persons providing testimony on Rule and TechSpec during the public hearing comment period are included in the attachment. The table in the attachment includes the initials (with numeric prefix) and name of each commenter, and who the commenter represents. The numeric prefix with each commenter's initials relates the testimony to the public hearing venue or written source as follows:

Numeric Prefix	Public Hearing Venue or Written Source
1	Public Hearing, Indianapolis
2	Public Hearing, LaPorte
3	Public Hearing, Seymour
4	Persons Providing Comments Electronically
5	Persons Providing Comments in Writing
6	Persons Providing Comments on Rolls of Toilet Paper

410 IAC 6-8.2 (Rule)

This section contains rationales for changes to the Rule proposed for final adoption, in response to comments received during the public hearing period, having a major impact on the Rule as published in the Indiana Register on June 1, 2003, as well as rationales to major comments that were rejected for consideration. Section numbers correspond to the PDF file entitled 'Changes in Rule, IN register to proposed-final adopted'.

Several persons commented, on rolls of toilet paper, in opposition to this Rule. The list of these commenters is included in the attachment of this document, and a summary of these comments is included in the hearing officer's report (see the PDF file entitled 'PH Hearing Officer Report, 11-03-03'). The department also received a large number of comments from a wide variety of people to postpone promulgation of the Rule because of the requirements in Section 57, Nitrates. The department has modified Section 57 in response to these comments, and provides its rationale below (see Section 57, Nitrates).

Section 4, "Bedroom" defined

1JK made the following comment: "Indiana has an Indiana Residential Code that is the State document that dictates how residential units are designed and built in the state of Indiana. The statute gives that code dictates over all other state department rules, no matter what agency creates them. … The Indiana Residential Code dictates how that home is going to be designed. … While the State of Indiana Residential Code supersedes this, it is going to create a lot of confusion." The department elected to retain this definition (with modification), noting that it applies to this rule only, and therefore does not affect the requirements contained in the Indiana Residential Code.

Section 11, "Effluent" defined

The department realized that the term "effluent" is used extensively throughout the document and a definition was not provided; this definition is provided to clarify intent.

Section 18, "Local health board" defined

The department realized that the term "local health board" is used in the document and a definition was not provided; this definition is provided to clarify intent.

Section 30, "Regulated facility" defined

4RW made the following comment: "The definition of "Regulated Facility" does not contain sufficient language to address cluster onsite systems owned and operated by homeowner associations or nonprofit public or private utilities under IURC jurisdiction. I prose the following language change in the body of the definition: 'Regulated Facility' means any facility … such as … 'or a private or public utility'." The change recommended by 4RW adding this wording was rejected. The purpose of this section is to address regulated facilities which use onsite sewage systems, not to address the regulation of utilities. Therefore the recommended additional language is not appropriate.

Section 44, Authority

Subsection (d): Several commenters noted the extraordinary burden this requirement places on local health departments (LHDs) and homeowners. In response to these concerns, the department is removing this requirement from the Rule, yet strongly encourages LHDs to implement mechanisms and procedures for oversight and enforcement for experimental and alternative onsite systems requiring O&M, as studies are conclusive that these systems require regular O&M to insure proper ongoing operation.

Section 45, General onsite system requirements

4RW requested that (k) be revised as follows: "Any commercial facility … the requirements of *410 IAC 6-8.2*, except that the incorporated city or town, conservancy or a regional sewer district, along with approval from the department and the Indiana Department of Environmental Management or the Indiana Department of Natural Resources, through a memorandum of understanding, agrees it to be in the best interest of the owner and the state regulatory agency, to not be exempt from the requirements of *410 IAC 6-8.2*." The change recommended by 2RW2 adding this wording was rejected for two reasons: 1. there is no protocol to define "best interests of the owner and state regulatory agency"; and 2. some facility owners may attempt to leverage the requirements of one agency against another.

Section 45, General onsite system requirements

4RW requested that, after (k), the following section be added: "(l) Any person who owns a commercial facility which involves a grouping of two or more residences and an onsite system approval letter is required from the department, shall comply with the requirements of the Indiana Utility Regulatory Commission." The addition of this section recommended by 4RW was rejected. State statute already specifies what utilities must comply with IURC requirements.

Section 49, Onsite system approval letter; department

Subsections (g) and (h): WWMC proposed wording to require the department approve plan submittals within 45 days of receipt of an application and complete plan submittal. These sections attempt to apply the requirements of *IC 16-41-25-1* to the department; upon review of *IC 16-41-25-1*, it is determined that the requirements of this legislation do not apply to approval letters issued by the department, so the proposed language was not accepted.

Section 50, Onsite system operating permit

Subsection (a): 5IBA-LF questioned the use of the word 'may' instead of 'shall' in the requirement of this subsection. This subsection has been reworded to reference *IC 16-19-3-27(b)(2)*, which states that LHDs may require written operating permits.

Section 51, Inspections

Most changes recommended by WWMC in this section were rejected. The department does not have the resources to inspect all experimental and alternative technology onsite systems for which it performs plan review and approval. For LHDs that permit experimental and alternative technology onsite systems in their counties, the department is committed to provide training and support to LHDs on proper inspection of these systems, and to provide consultation as needed and requested by LHDs.

Section 52, Application denial, and approval letter or construction permit revocation

Subsection (d) (6) and (7): Given changes that were rejected by the department in Section 51, recommended WWMC changes in these subsections also were rejected (see rationale for Section 51).

Section 54, Temporary sewage holding tanks

Subsection (b) (4): Change recommended by WWMC to delete wording in this subsection were rejected. The department believes the original wording requiring the frequency of pumping based on wastewater flow and tank capacity clarifies requirements of the contract for a licensed wastewater management business for pumping temporary sewage holding tanks.

Section 56, Alternative technology

Subsections (a) (1), (2) and (3): 4CWT & 1JK both commented that there are no provisions in the Rule to move technology from the 'experimental' to the 'alternative' status; this change addresses this concern.

Section 57, Nitrates

The department received several comments from a wide variety of commenters to postpone promulgation of the Rule due to the high cost to homeowners of the requirement of this section, the questionable impact of onsite systems on groundwater, the lack of scientific knowledge of the movement of nitrates in soil, and the availability of technologies for compliance. In response to these concerns, the department is modifying the requirements of this section to apply only to new onsite systems installed after January 1, 2010. The department is also adding requirements for publishing reports specified in the rule by April 30, 2008.

Section 60, Incorporation by reference

2RW1 made the following comment: "I'm concerned that we've been told since the beginning of this debate, over five years ago, that both the rule and the technical specifications would be considered for adoption. The concern should be obvious. The technical specifications not included in the public hearing and approved as part of this rule-making process, then it would be far too easy to change the requirements of the rule."

The comment by 2RW1 concerning the ease of the department "to change the requirements of the rule" is unfounded given the strict requirements of *IC 4-22*, Administrative Rules and Procedures, governing the promulgation of administrative code by state agencies. This law requires a state agency to "fully and exactly" describe any document incorporated by reference – including title and date of publication. The TechSpec is incorporated into *410 IAC 6-8.2* with the title: "Technical Specification for Onsite Sewage Systems, 2005 Edition." This gives a specific title and date for the publication, locking the referenced document to this, and only this, published date. The only means the department has to change the TechSpec is to undergo the complete rulemaking process. As a matter of record, changes to the TechSpec by the department based on comments received during the public hearing process can be viewed in the document entitled 'Changes in TechSpec, pre adopted to proposed-final adopted' referenced on page 1 of this document.

Technical Specification (TechSpec)

This section contains rationales for changes to the TechSpec proposed for final adoption, in response to comments received during the public hearing period, having a major impact on the TechSpec as preliminarily adopted by the Executive Board on January 8, 2003, as well as rationales to major comments that were rejected for consideration. Section and line numbers correspond to the PDF file entitled 'Changes in TechSpec, pre adopted to proposed-final adopted'.

The department received a large number of comments from a wide variety of people challenging the use of the nitrate leaching index as a step in the identification of sites with soils that may require secondary treatment for nitrogen reduction. The department has modified Chapter 3, Section VI. in response to these comments, and provides its rationale below [see Chapter 3, Section VI (line 868)].

Chapter 1 Introduction

Chapter 1, Section I (line 13): WWMC commented that these two paragraphs should be deleted, as they are narrative in form and do not constitute requirements. 5GRP, Vice-President of the Area Plan Commission of St. Joseph County, stated that "the proposed specification should address the question of applicability. It will be difficult for our Plan Commission to require sewers when it appears that individual onsite septic systems have approval, without reservation, of the ISDH, and that septic systems are an appropriate method of wastewater disposal as long as the technical specifications are followed. Actually, I believe that the specifications should be more specific in setting maximum densities for septic systems. …If density of systems is important, it should at least be mentioned as it is so briefly and indirectly in the January 8 draft specifications."

These comments oppose one another in their recommended changes. The department has elected to retain the language contained in the preliminary adopted version of the TechSpec. The department is represented on the Rural Wastewater Task Force to the Indiana Land Resources Council (ILRC), a council created to take a comprehensive look at statewide land use issues. The task force recommended "better local decision-making regarding wastewater options for new development" including the establishment of "local technical review committees that

include local health department representatives" and encouraging communities "to develop local rural wastewater strategies that are integrated with local comprehensive plans and development regulations." The department supports the efforts of this body, and believes minimal language should be included in the TechSpec in support of the activities of local and county land use planning agencies. Individual onsite systems are not always the best alternative for the disposal of human sewage, especially for housing subdivisions and other moderate to high-density land development where other sewage treatment methods should be considered in the land use planning process, such as cluster onsite systems and sewers.

This language is included to encourage state, local and county land use agencies, and developers, to consider cluster onsite systems or sewers as a means to allow for the more effective use of limited land resources in support of balanced development of residential areas, farmland preservation, conservation of wildlife habitats and fragile environments (including wetlands), and the development of recreational and open spaces. Creative use of cluster onsite systems and sewers can aid localities and developers in realizing comprehensive land use goals, and the department lends support to these aims by educating users of this document about innovative approaches to the problem of disposal of human sewage.

Regarding the use of narrative language in the TechSpec, the department acknowledges that narrative descriptions are used sparingly throughout the document. This is by intent. The format of the technical specification was chosen specifically to allow for a flexible document format and language usage (as opposed to the formatting and language use restrictions required in Indiana Administrative Code documents), and to allow for the use of limited narrative descriptions where the department believes they provide for a more user-friendly document.

Chapter 2 Administrative Authority & Plan Submittal

Chapter 2, Section I. D. 2. (line 94): Change recommended by WWMC to place responsibility for inspections required in *410 IAC 6-8.2-51(c)* was rejected. The department does not have the resources to inspect all commercial onsite systems for which it performs plan review and approval, and must rely on the design engineer or architect (i.e., the private sector) to perform this function.

Chapter 2, Section II. C. 2. b. 3) (line 181): A comment by 4DSR, along with department changes in the TechSpec eliminating the nitrate leaching index, permitted the deletion of this paragraph since it is no longer applicable.

Chapter 2, Section II. D. 3. (line 215): 5PMC noted that "Soil survey map units are named after the main components. But, the delineations also include variable amounts of included soils as are listed in the map unit description. Some of these inclusions are similar and some are highly contrasting. …it is inferred that the soil survey map unit or the soil evaluation is in error, when in fact both may be 100 percent correct." Based on this comment, the department has deleted this requirement.

Chapter 2, Section IV. B. 1. c. (line 491): WWMC deleted the section starting on line 483 due to reference to proprietary equipment (paratill™ plow). 5DSR commented on other equipment available for use in Indiana that is capable of breaking up compacted soil, and provided

suggested wording. Based on this comment, the department drafted the language included in the proposed document.

Chapter 3 Site & Onsite System Requirements

Figure 3-2 (footnotes 2 and 3) and Chapter 3, Section II. B. 4. (line 693): Change recommended by WWMC to delete 15% slope limitation on dispersal areas was rejected. The department is concerned that steep slopes in dispersal areas may result in the surfacing of effluent downslope of soil absorptions fields as the soil treatment zone on steep slopes tends to be less thick due to soil erosion.

Chapter 3, Section V., Introductory Paragraph (line 819): 4CWT made the following comment: "The use of chambers as an alternative to aggregate in sand mounds has not been defined. We suggest that OSS system regulators, installers, and homeowners be allowed the option of using chambers as an alternative to aggregate in sand mounds. This could be achieved by adding the words, 'or in chambers' after the words 'aggregate bed' in line [819]." The change recommended by 4CWT to add this wording was rejected. The department, as has been reported to be the case in other states considering this proposal, is concerned with the potential for chambers to settle in the basal area sand of the sand mound. In separate correspondence, this commenter has also suggested compacting the basal area sand to provide a base of support for chambers; the department is concerned that compaction of sand in a sand mound may cause the system to fail. The department is open to working with this manufacturer in testing this concept on pilot projects and documenting installation procedures and operating results to determine if this proposed application of chamber technology can be moved from 'experimental technology' to 'alternative technology'.

Chapter 3, Section VI (line 868): The department received several comments from a wide variety of commenters challenging the use of the nitrate leaching index as a step in the identification of sites with soils that may require secondary treatment for nitrogen reduction, in compliance with the provisions of *IC 13-18-17-5* and *327 IAC 2-11-1*, et. seq. This law and administrative code require that the department apply groundwater quality standards in *410 IAC 6-8.2* (see section 57). Purdue University developed an alternative method for identifying sites with soils that will have a detrimental impact on groundwater and for which secondary treatment should be employed to reduce the impact of nitrogen on groundwater quality. This method does not use the nitrate leaching index to identify sites with soils that may require secondary treatment for nitrogen reduction. Analysis of the impact of this proposal indicates a far lower economic impact on homeowners and counties from the implementation of this change in the TechSpec. WWMC adopted the recommendations of Purdue University in their comments on the TechSpec, which are incorporated into the TechSpec for final adoption.

Chapter 4 Site Drainage

Chapter 4, Sections II. A. 5. b. & c., and 6.a. (lines 984, 986, 993): Change recommended by WWMC to change slope requirement for a perimeter drain from 6% to 2% was rejected. The department has elected to retain the language contained in the preliminary adopted version of the TechSpec so as to require a perimeter drain on gently sloping sites to improve drainage on these sites.

Chapter 4, Section II. E. 1. (line 1101): Change recommended by WWMC to require designers and installers to use best practices was rejected. The department has determined that a requirement to use best practices requires that the referenced material be available for use – this is not the case for the installation of subsurface drains. The department is committed to working with stakeholders in the development of best practices for subsurface drains.

Chapter 4, Section II. E. 5. c. (line 1172): 5DSR commented that when INDOT Spec. 23 sand is used to backfill a subsurface drainage trench, geotextile fabric should be used to wrap the drainpipe. Based on this comment, the department drafted the language included in the proposed document.

Chapter 5 General Onsite System Components

Chapter 5, Section IV. B. 1. b. (line 1406), Figure 5-7, and Chapter 5, Section IV. G. 2. b. 2) (line 1557): 1SH, 2MVM, 2SA, 3JH, 5DSR, 5JH, 5JWC, 5SB, and 5TH/MP commented that the WWMC proposed increases in minimum septic tank size would add significant cost to homeowners (the WWMC proposal increased septic tank sizes while eliminating the department's requirement for two compartment septic tanks contained in the preliminary adopted version of the TechSpec). The department proposed that all residential septic tanks be two-compartment to better protect the outlet filter from premature clogging and increase the maintenance interval, closer to, if not exceeding, the maintenance interval for pumping and cleaning of the septic tank. In seeking clarification from one of the commenters, the department learned of the practice of the outlet filter being upsized in single compartment septic tanks to extend the maintenance interval between cleanings. Based on these comments, the department drafted the language included in the proposed document to provide the option for single compartment septic tanks sized according to the existing rule with upsized outlet filters to extend the maintenance interval between cleanings.

Chapter 5, Section IV. B. 3. (line 1420): WWMC proposed changes to this section were modified by the department to accommodate the needs of commercial onsite sewage system owners.

Chapter 5, Section IV. B. 4. (line 1425): 5JWC "adamantly requests the deletion of this sentence." 5JWC commented that this proposed WWMC change would require exceedingly large septic tanks that "will cause all septic tank manufacturers to retool thus increasing the cost to every customer in an exorbitant amount. This also may close many small manufacturers and will not benefit the industry, buyers or the state." Based on this comment, the department has rejected this change recommended by WWMC.

Chapter 5, Section IV. B. 5. (lines 1427 and 1428): WWMC proposed changes to these sections were modified by the department to accommodate the needs of commercial onsite sewage system owners.

Chapter 5, Section IV. C. 1. and Section V. C. 1. (lines 1435 and 1612): 4TA commented "Furthermore, plastic does not adhere to concrete and a void or crack always develops between the concrete and the plastic pipe or fitting and this allows infiltration and exfiltration." Based on this comment, the department added language to prohibit drain holes in tanks.

Chapter 5, Section IV. C. ~~3.~~ (line 1443): WWMC proposed the wording "An outlet baffle, sanitary tee, or vented elbow, and an outlet gas deflection baffle, must be installed in all septic tanks." The department has rejected this language because outlet filters have these components already built-into the outlet filter design, therefore the proposed language provides a redundant requirement.

Chapter 5, Section V. A. 5. (line 1594): WWMC recommended the deletion of this section. The department has elected to retain the language contained in the preliminary adopted version of the TechSpec, with modification. The purpose of retaining a sanitary tee or vented elbow at the entrance of a dose tank is to protect the dose tank floats from possible disruption by the incoming effluent.

Chapter 5, Section V. D. 3. ~~a.~~ (line 1627): WWMC recommended that this section be deleted. The department has elected to retain the language contained in the preliminary adopted version of the TechSpec. Provisions must be provided for the venting of dose tanks to prevent the accumulation of sewage gases.

Chapter 5, Section VI. A. ~~1.~~ (line 1640): WWMC recommended the deletion of this section. The department has elected to retain the language contained in the preliminary adopted version of the TechSpec, with modification to clarify intent. The purpose of this language is to require each septic tank manufacturer to test a representative tank for structural integrity at the time of plan submittal to the department for approval.

Chapter 5, Section VI. B. 2. b. (line 1675): 3JH and 5JH informed the department of an alternative method of achieving a watertight connector in a septic tank using a PVC coupling. Based on this comment, and further input from JH to clarify his process and application, the department drafted the language included in the proposed document.

Chapter 5, Sections VI. A. 1. b., VI. C. ~~1.~~, C. 1. ~~b.~~, and ~~2.~~ (line 1702): 4JTP commented that "The CSA strength and watertightness tests were designed to prove the acceptability of a tank design for purposes of issuing a CSA Approval; these tests were not designed to be used as a procedure for random verification. The CSA strength test for polyethylene tanks requires a minimum of 72 hours for completion. … We request that this section be rewritten to remove the specific references to lot size and test methods for quality control." Based on this comment, the department has deleted this requirement for all polyethylene and fiberglass-reinforced polyester tanks.

Chapter 5, Section VI. D. 4. (line 1751): WWMC recommended that this section be deleted. The department notes that some of this language is necessary due to the requirement in Section IX.A.1.b. in which the department must approve plans and specifications for distribution boxes; parts of this section are retained so that LHDs will be able to identify, in the field, department approved distribution boxes during final inspections.

Chapter 5, Section XI. B. 1. (line 2209): 5BEL, 5DDL, 5NK and 5SL requested "after the word 'stone' insert 'chipped rubber tires." The change recommended by these commenters to add this

wording was rejected. This section already includes the words "or other materials approved by the department." The department is open to working with the chipped rubber tire industry in testing this concept on pilot projects and documenting installation procedures and operating results to determine if this technology can be moved from 'experimental technology' to 'alternative technology'.

Chapter 5, Section XI. C. (line 2228): Changes in this section, 'Specifications, Chambers', were based on comments received from 4CWT, a representative of a manufacturer of polyolefin chambers.

Chapter 6 Trench Onsite Systems

Chapter 6, Section I. A. 2. c. (line 2302): Change recommended by WWMC to delete the requirement prohibiting "site preparation, finish grading and soil stabilization … when the soil is frozen" was rejected. The department has elected to retain the language contained in the preliminary adopted version of the TechSpec based on experiences of sites being destroyed when installers have conducted such activities while the soil was supposedly frozen; the risk of site destruction outweighs the perceived advantage of providing additional latitude to installers for this activity.

Chapter 6, Sections I. B. ~~3.~~ and I. D. 2. ~~a.~~ (lines 2321 and 2351): The recommendation by WWMC to insert this section was rejected. In the worst case scenario of a site with a slope of 2 %, a trench onsite system could, using this proposed wording, be constructed perpendicular to the slope of the site. For a trench onsite system with 5-100 foot long trenches, the wetting face of the subsurface soil would be a mere 15 feet (3 foot wide trenches times 5 trenches) times the depth of soil to a limiting condition; this compares unfavorably to the same trench onsite system installed on contour, with the wetting face of the subsurface soil being a total of 100 feet (the length of the trenches) times the depth of soil to a limiting condition. This results in a wetting surface ratio of 6 $^{2}/_{3}$:1, comparing trenches installed on contour to trenches installed perpendicular to the slope of the site. The situation proposed violates the widely accepted concept of linear loading rate, in which onsite systems should be designed as long and narrow as possible along the contour to maximize the area or 'window' in which effluent must pass through soil in the treatment process; violation of this principle can result in premature failure of an onsite system.

In addition, 4IBA commented that "The subcommittee discussed the problems with requiring the trench to be parallel to the contour of the site. Site contours are potentially complex. The design includes the responsibility of dealing with the contours. Discussion affirmed that if a slope is equal to or greater than 2%, the design needs to follow the contours, to avoid downslope dispersal issues. Some questioned the 2%, and then agreed to ½%, because ½% is referenced in the definition of a mound, thereby also defining a level surface." This comment further supports the department's choice to reject the WWMC insertion.

The department recognizes the reality that soil on a site seldom resembles a perfectly flat plane, that the process of natural weathering of soil results in 'undulations' of the soil surface referred to as 'micro-relief' (this condition is typically much more severe on agricultural land where plowing results in man-made 'micro-relief'). Though the wording proposed by WWMC in this

section attempts to address this issue, it opens the door to poor onsite system design applications, as illustrated in the above scenario. The department is committed to continue research in this area, to consult with soil scientists from NRCS, Purdue University, and private practice, in an effort to develop a best practice document that deals with issues of design and system layout concerns relative to the phenomenon of 'micro-relief' without violating linear loading rate concepts.

Chapter 6, Section I. D. 2. a. (line 2352): Change recommended by WWMC to delete the words "or sidewall" was rejected. Evidence of smearing by a LHD inspector is often detected only after trench bottoms have been covered and the only evidence of possible smearing are exposed trench sidewalls. Retention of this language provides LHDs with greater enforcement abilities.

Chapter 6, Section II. A. 1. (line 2377): Change recommended by WWMC to delete the last part of this section was rejected. This language is retained to provide the department's Plan Review Section the option to approve plans for gravity systems for small commercial Amish schools without electricity.

Figure 6-2: Changes recommended by WWMC to modify this figure were rejected. Department analysis of the impact of the proposed changes indicates that, for flood dose systems, ¼ dose/day, for a soil with an SLR of 0.75 gpd/ft^2, would result in only $^1/_8$ inch of effluent along the trench bottom (less for soils with a lower SLR), cutting the margins too close for attempting to achieve relatively even distribution of effluent along trench bottoms. In addition, for flood dose systems, if inverts of the distribution-box outlets become uneven due to shifting over time, small-frequent doses will also exacerbate uneven distribution. For pressure distribution systems designed for soils with a SLR of 0.75 gpd/ft^2 or less, the ratio of the volume of the dose to the volume of the pressure distribution network will fall below the required 7:1, resulting in unequal distribution of effluent to the trenches.

Chapter 7 Sand Mound Onsite Systems

Chapter 7, Section II. A. ~~3.~~ (line 2886): Change recommended by WWMC to delete the requirement prohibiting "site preparation, construction of the sand mound, finish grading and soil stabilization … when the soil is frozen" was rejected. The department has elected to retain the language contained in the preliminary adopted version of the TechSpec based on experiences of sites being destroyed when installers have conducted such activities while the soil was supposedly frozen; the risk of site destruction outweighs the perceived advantage of providing additional latitude to installers for this activity.

Chapter 7, Section II. C. 3. a. 2) c) (line 2932): Change recommended by WWMC to delete the requirement that "the backhoe bucket must be fitted with chisel teeth" was rejected. The department has elected to retain the language contained in the preliminary adopted version of the TechSpec based on experiences with the application of a backhoe for the purpose of tilling a sand mound site.

Chapter 7, Section II. F. 1. a. (line 2995): Change recommended by WWMC to delete this section was rejected. The department has elected to retain and modify the language contained in

the preliminary adopted version of the TechSpec to address those situations in which the perimeter of the sand mound was not tilled during site preparation operations required in Section II. C. 3 of Chapter 7.

Chapter 8 Experimental and Alternative Technology Onsite Systems

Chapter 8, Section I. (lines 3043 through 3158): Changes in this section, General Requirements, are based largely on input from the WWMC and a number of comments from commenters from the wastewater aerobic treatment industry. Based on this input, the department drafted the language included in the proposed document. These changes include the following:

- Flow equalization of effluent through all secondary treatment units (STUs);
- Prevention of the passage of effluent not treated to required effluent quality from a STU to a soil absorption field;
- Material requirements, and requirements for alarms activated upon an electrical or mechanical malfunction, for STUs;
- Activation of a pressure switch upon a malfunction of a fan or blower for aerobic treatment units (ATUs); and
- Access and provisions for the removal of solids and sludge in the aeration compartment of all ATUs.

Chapter 8, Section II. A. 3. b. (line 3169): 4SC stated that "Remote telemetry control panels that have advanced logic allow the operator to closely monitor the system without having to make additional site visits. These panels can be designed to record and perform many different operations from simple alarm notification, via email and pager, controlling the pump when a float malfunctions, to detecting higher than normal daily flows that may effect system performance. Maintenance visits should be allowed to be reduced to once per year where telemetry control panels, that have 24/7 advanced logic (system monitoring, event data logging, alarm notification etc.), are used." Based on this comment, the department drafted the language included in this section of the proposed document.

Chapter 8, Section II. A. 8. (line 3211): 4CWT noted that "If the performance of a soil absorption technology has been documented (as described in the definition), the siting, design, permitting, and notification requirements for the technology should not be more burdensome than the requirements for a soil absorption system defined in *410 IAC 6-8.2-37*. Therefore, we suggest and request that additional requirements (not required for aggregate soil absorption systems) for alternative soil absorption field technologies be removed from the rule and technical specification." Based on this comment, the department drafted the language included in this section of the proposed document.

Attachment: Persons Providing Testimony on the Rule and TechSpec

Initials	Name	Representing
Public Hearing, Indianapolis		
1BM	Bob McKean	IBA
1DK	David Kovich	IBA
1DS	Don Schnoebelen	WWMC, Co-Chair
1EG	Edie Gray	Elkhart County Board; Indiana Association of Realtors, Dir.
1JK	James Keller	Indiana Manufactured Housing Association, Gov. Rel. Dir.
1KS	Ken Steury	Leo Realtors, principal broker
1MP	Marlys Pedtke	IBA
1SH	Scott Hughey	Carmel Concrete Products Company
1TC	Tom Cash	Cash Concrete
Public Hearing, LaPorte		
2BG	Bill Grant	Lagrange County HD
2DB	Dan Bloodgood	Spectator on Dan's behalf
2DH	Dave Hardister	Citizen
2DK	David C. Kovictz	IBA
2DM	Doug Miller	BA of Elkhart County, Pres; D.S. Miller Construction
2DS	Don Schnoebelen	Elkhart County HD
2GH	Gretchen Hellman	BA of Elkhart County, Employee
2GM	Georgia Mareska	Liston-Brown Realtors, Broker, LaPorte
2IS	Ian Steele	Citizen, LaPorte County
2LG	Lance Gould	Marshall County Builders Association, BOD
2LH	Larry Huber	Soil scientist, soil classifier, working in LaPorte County
2LY	Leroy Yoder	Homebuilder and developer
2MA	Mike Arnett	Greater LaPorte Chamber of Commerce, Chairman
2MP	Marlys Pedtke	IBA
2MVM	Max Van Meter	Septic tank manufacturer
2PR	Patricia Rogers	Liston-Brown Realtors, Broker, LaPorte
2RW1	Robert Watkins	Elkhart County HD
2RW2	Richard Wise	Citizen, interested party
2SA	Steve Adams	Stevens & Block
2TD	Tom Duszynski	LaPorte County HD
2TH	Terry Herschberger	IBA
2TW	Tom Wickart	Semi-retired developer, builder from Elkhart
2VR	V. Raj	Crest Homes
Public Hearing, Seymour		
3AD	Al Donaldson	Soil scientist, Brown County
3GF	Greg Furnish	Home Builders Association of Southern Indiana, member
3JB	John Bowen	Soil scientist, Seymour
3JH	John Hudson	Hudson Concrete Products

Initials	Name	Representing
3LS	Lonn Stuckwish	Jackson County, realtor
3MP	Marlys Pedtke	IBA, staff
3MS	Mark Spurgeon	Mark Spurgeon, farmer, Reddington
3PH	Pat Harrison	Development in Memphis, taxpayer in Indiana
3RR	Ralph Reed	Reed Excavating and Septic Services, Brown County
3TG	Thomas Greemann	Realtor

Initials	Name	Representing	Ref.*
Persons Providing Comments in Writing			
4CWT	Carl W. Thompson	Infiltrator Systems Inc	S
4JTP	Jerry T. Paulson	Norwesco	G
4JWS	James W. Skinner	Press-Seal Gasket Corporation, President	T
4LJM	Linda J. Mauller	Environmental Health Specialist, Wells County HD	II
4MSP	Michael S. Price	Norweco	F
4RW	Richard Wise	President, Indiana Capacity Center	EEE
4SC	Sam Carter	Regulatory Relations Coordinator, Orenco Systems Inc.	Y
4TA	Tim Andrews	Press-Seal Gasket Corp.	U
4TJB	Thomas J. Bruursema	General Manager, Drinking Water and Wastewater Treatment Unit Programs, NSF	D
5AB	Allison Blodig	Bio-Microbics Incorporated	TT
5AD	Al Donaldson	Soil Scientist.	GG
5AJCS	Arthur Collier	AJ's Construction Services, LLC	VV
5BEL	Byron E. Loveless	Boone County Solid Waste Management District.	QQ
5BM	Bob McKean	IBA	I
5CDM	C. David Matthews	David Matthews Associates	Q
5CS	Charles Stem	Stemtech, Inc.	L
5CW	Cresley Walker	Walker Chiropractic, P.C.	XX
5DB	Dan Bloodgood	Citizen	GGG
5DDL	David D. Lamm	Boone County Solid Waste Management District	PP
5DF	Donald Franzmeier	Purdue University	RR
5DJ	Debra Jimison	Progressive Engineering, Inc.	DD
5DR	Dave Ralston	Soil Tech, Inc.	EE
5DSR	David S. Ralston	Soil Tech, Inc.	EE
5EH 5MP	Ellen Holland Marlys Pedtke	Indiana Association of Realtors, Inc. Indiana Builders Association	M
5GC	Gary Chapple	Fort Wayne – Allen County Dept. of Health	HH
5GL	Greg Lake	WWMC	B
5GRP	Gerald R. Phipps	Gerald R. Phipps, PE	BBB
5IBA	IBA	Indiana Builders Association	H
5IBA-CA	IN Builders Assoc.	IBA-Cost Analysis	H
5IBA-LF	IN Builders Assoc.	IBA-Legality and Form	H
5IOWPA	Ron Rose	IN Onsite Wastewater Professionals Association, Inc.	C, E

Initials	Name	Representing	Ref.*
5IS	Ian Steele	Citizen – Laporte County	YY
5JH	John Hudson	Hudson Concrete Products, Inc.	CC
5JL	June Livingshouse	IBA – In. Assoc. of Realtors	N
5JWC	John W. Crist	Hartford Concrete Products, Inc.	BB
5KC	Kevin Chaffee	Earthtek	X
5LCC	LCC, LCC, LCHD	LaGrange County Commissioners, LaGrange County Council, & LaGrange County Health Department	LL
5LFA	Tim Monaghan & Bernie Feeney	Lang, Feeney & Associates	UU
5LK	Lorri Kovitz	Citizen, LaPorte	CCC
5MBS 5MTA	Michael B. Seitz Michael T. Arnett	LaPorte Chamber of Commerce. President, Chairman	KK
5MF	Maureen Ferguson	IN Statewide Assoc. of Rural Electric Cooperatives, Inc.	SS
5MP	Marlys Pedtke	IBA	J
5MS	Mark Spurgeon	Seymour City Council	ZZ
5NK	Noell Krughoff	Shelby County Solid Waste Management District	NN
5PMC	Paul McCarter, Jr.	Soil Investigations	FF
5RB	Robert Bowsman	Bowsman Tank Co.	V
5RLH	Ronald L. Highland	Tippecanoe County Building Commission	JJ
5RR	Ralph Reed	Reed Excavating & Septic Services, Inc.	Z
5RW	Robert Watkins	Elkhart County Health Department – Manager Environmental Health Services	MM
5SB	Sam Baker	AK Industries, Inc.	R
5SL	Steve Longnecker	Randolph County Solid Waste Management District	OO
5SM	Stuart Meade	Septic Design	W
5SS	Sherry Stem	Semonin Realtors	P
5TH	Terry Herschberger	IBA Septic Committee	K
5TH/MP	Terry Herschberger Marlys Pedtke	Article in The Indiana Bildor: "New Septic Rule is No 'Home Improvement'"	
5TJH	Timothy J. Harrington	Harrington Engineering & Construction, Inc.	DDD
5TKH	Terry K. Hiestand	Lawyer	FFF
5TM	Ted Meyers	Tuf-Tite Drainage & Septic Products	AA
5TRL	Thomas R. Larson	Re/Max Towne & Country	O
5WCT	Willard C. Thorn	Thorn-Orwick	WW
5WDB	Wesley D. Burden	Fulton County Health Department	AAA
Persons Providing Comments on Rolls of Toilet Paper			
6RR	Rio Risner	D-Garage Doors Inc., Taxpayer	HHH
6JR	Jim Roy	The Floor Store	HHH
6SS	Shawn Solner	Trout Glass	HHH
6JH	James Heavilin	Energy Tech Insulation	HHH
6WO	Warren O	Flooring Center	HHH
6RB	Ray Butts	Citizen	HHH

Initials	Name	Representing	Ref.*
6JB-A	Joann Burns-Atchtmann	Citizen	HHH
6JP	Jim Pressell	Pressel Enterprises	HHH
6SV	Steve Vanderwerf	Kankakee Valley REMC	HHH
6RK	Rolanda Kolbert	First American Title Company	HHH
6TK	Tim Konowitz	LaPorte Seamless Gutter	HHH
6LW	Linda Wireman	Metropolitan Title	HHH
6GH	Greg Hunt	Clear Water Well & Pump	HHH
6GP	Gene Pavey	Pavey Excavating Company	HHH
6GS	Greg Szybala	Citizen	HHH
6JD	Jim Dradir	City Savings	HHH
6JG	John Gruber	Citizen	HHH
6JB-A	Joann Burns-Atchtmann	Chemical Bank Shoreline	HHH
6		From's Supply Company	HHH
6BS	Blaine Snyder	Maple City Mechanical	HHH
6MF	Mark Fickel	Fickel's Electric Services	HHH
6RC	Ray Cermak	Cermak'Decks	HHH
6RMcC	Rhomda McConnell	Tri-Corp Wireless "Nextel"	HHH
6RR	Rio Risner	DC Garage Doors Inc.	HHH
6		Builders Assoc of LaPorte County	HHH
6BY	Bruce Young	Citizen	HHH
6J McC	Jeff McCombs	JM Plumbing	HHH
6BB	Bret Benefiel	Citizen	HHH
6		Farm Credit Services	HHH
6BP	Bob Pinda	Citizen	HHH
6BS	Bruce Smuck…	Citizen	HHH
6EL	Ed Ludwig	Citizen	HHH
6CD	Charles Dye	Citizen	HHH
6GD	Greg Deutscher	Citizen	HHH
6CS	Clarence Spear	Citizen	HHH
6SS	Shawn Solner	Trout Glass	HHH
* Ref. – exhibit notation in hearing officer's report.			